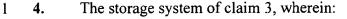## IN THE CLAIMS

What is claimed is:

1   **1.**   A storage system, comprising:

2   a plurality of system servers connected to one another by a

3   communication network having at least one node, each system server

4   including at least one process that provides a storage system

5   function independent of the states of other system servers in response

6   to a request to the storage system, and

7   providing server location and feature information to a directory

8   server when the system server is initialized.

1   **2.**   The storage system of claim 1, wherein:

2   the storage system functions are selected from the group consisting of:

3   accessing files stored in the storage system, accessing metadata for files stored

4   in the storage system, and serving as a gateway for external client processes

5   that generate requests for the storage system.

1   **3.**   The storage system of claim 1, further including:

2   the system servers are arranged into multiple services, the system

3   servers of each service providing system storage functions unique to that

4   service.

1   **4.**   The storage system of claim 3, wherein:

2   at least one service comprises a storage server service that includes a

3   plurality of storage servers, each storage server including a process that

4   accesses files stored in the storage system independent of the files accessed by

5   other storage servers.

1   **5.**   The storage system of claim 4, wherein:

2   at least one service further comprises a metadata service that includes

3   a plurality of metadata servers, each metadata server including a process that

4   accesses a set of metadata independent of the metadata sets accessed by other

5   metadata servers.

1   **6.**   The storage system of claim 3, further including:

2   at least one server directory that includes location information and

3   service capabilities of the system servers, at least one server directory

4   providing at least one server location in response to a request to the storage

5   system; and

6   at least one service comprises a gateway service that includes a

7   plurality of gateway servers, each gateway server hosting at least one client

8   process that can process client requests and pass the resulting set of requests

9   to the storage system and including a process that may access at least one

10 server directory to determine the location of a system server that can service a

11 generated client request.

1   7.   The storage system of claim 1, further including:

2   a routing request server that provides system server location

3   information in response to a request to the storage system, the location

4   information corresponding to a system server that is capable of servicing the

5   request.

1   **8.**   A storage system, comprising:

2   a plurality of servers arranged into at least two services

3   each service providing different storage system functions

4   independent of the status of any other service, and

5   the servers of each service being functionally de-coupled from

6   one another, servicing requests independent of the operation of other

7   servers of the service; and

8   a server directory process that receives information for a storage

9   system request and provides information to locate a server capable of

10 servicing the request.

1   **9.**   The storage system of claim 8, wherein:

2   the plurality of servers are arranged into

3   a metadata service that provides access to metadata for files

4   stored in the storage system; and

5   a storage server service that provides access to files stored in

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6   the storage system.

1   **10.**   The storage system of claim 9, wherein:

2   the metadata service comprises a plurality of metadata servers, each

3   metadata server including an initialize function that may provide metadata

4   server location and metadata server capability information to a server

5   directory.

1   **11.**   The storage system of claim 10, wherein:

2   the metadata server capability information includes a quality of service

3   value.

1   **12.**   The storage system of claim 9, wherein:

2   the storage server service comprises a plurality of storage servers, each

3   storage server including an initialize function that may provide server location

4   and server capability information to a server directory.

1   **13.**   The storage system of claim 12, wherein:

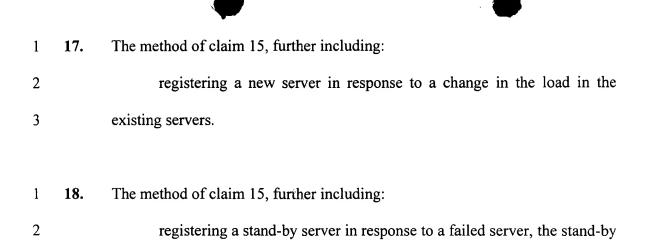2   the storage server capability information includes a set of files

3   accessible by the storage server.

1   **14.**   The storage system of claim 8, further including:

2   a plurality of gateway servers, each gateway server including a process

3   that can access the server directory process to determine a location of a server

4   capable of servicing a request and then access the server at the location to

5   service the request.

1   **15.**   A method of operating a storage system having a plurality of servers, comprising the

2   steps of:

3   as a server is initialized, registering server location and features with a

4   server directory;

5   accessing the server directory to locate a server capable of performing

6   a request; and

7   accessing a server according to server directory information to service

8   a type of request; and

9   servicing the request with a server that operates independently of other

10   servers that services the same type of request.

1   **16.**   The method of claim 15, wherein:

2   the step of accessing a server includes accessing a metadata server that

3   has access to metadata to service requests related to metadata of stored files,

4   and accessing a storage server that has access to files to service file related

5   requests, the storage server having no access to the metadata of stored files.

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1   **17.**   The method of claim 15, further including:

2   registering a new server in response to a change in the load in the

3   existing servers.

1   **18.**   The method of claim 15, further including:

2   registering a stand-by server in response to a failed server, the stand-by

3   server having at least some of the capabilities of the failed server.

1   **19.**   The method of claim 15, further including:

2   providing status information of a server to the server directory.

1   **20.**   The method of claim 19, wherein:

2   the status information includes the load on the server.

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